
(19) KOREAN INTELLECTUAL PROPERTY OFFICE

KOREAN PATENT ABSTRACTS

(11)Publication number: 010020024 A
(43)Date of publication of application: 15.03.2001

(21)Application number: 990036708
(22)Date of filing: 31.08.1999

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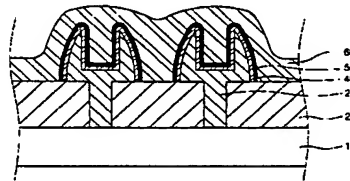
(51)Int. Cl H01L 27/108

(54) METHOD FOR MANUFACTURING TANTALUM OXIDE LAYER CAPACITOR

(57) Abstract:

PURPOSE: A method for manufacturing a tantalum oxide layer capacitor is to provide high capacitance by preventing a storage electrode from being oxidized so that a low dielectric layer is not formed to enlarge a grain size of a tantalum oxide layer.

CONSTITUTION: After an interlayer dielectric(20) is stacked on a semiconductor substrate(10) and a contact hole(25) is formed by a masking etch process, a storage electrode having a groove part is formed with a doped amorphous polysilicon layer. A nitride layer(40) is stacked on the storage electrode by a preprocessing process. After a tantalum oxide layer(50) functioning as a dielectric material is deposited on the nitride layer, a postprocessing process is performed at low temperature to decrease a dislocation density. A metal layer is stacked and patterned to form a plate electrode(60). An annealing process is performed regarding the resultant structure to crystallize the tantalum oxide layer.



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Legal Status

Final disposal of an application (application)